

What is claimed is:

1. An electrically actuated parking brake system comprising:
a vehicle power source;
an electromechanical actuator comprising a motor having a drive shaft, a drive gear coupled to said drive shaft, a driven gear coupled to said drive gear, and at least one planetary gear set coupled to said driven gear for driving an actuator output; and
a brake caliper coupled to said actuator output, said actuator output being configured for driving said brake caliper between an engaged position and a released position.
2. The system according to claim 1, wherein said drive gear and said driven gear comprise a worm gear and a worm wheel in meshing engagement.
3. The system according to claim 1, wherein said drive gear and said driven gear are coupled via a drive belt.
4. The system according to claim 1, said actuator further comprising a component isolator having a spring constant and a damping constant, said isolator coupled between said motor and a remainder of said actuator.
5. The system according to claim 4, wherein said component isolator comprises a first portion coupled to a first end of said motor and a second portion coupled to a second end of said motor.
6. The system according to claim 1, said actuator further comprising a sub-frame, said motor being mounted on said sub-frame.

7. The system according to claim 6, further comprising a component isolator having a spring constant and a damping constant, said isolator coupled between said motor and said sub-frame.

8. The system according to claim 6, wherein said at least one planetary gear set is mounted on said sub-frame.

9. The system according to claim 8, further comprising a component isolator having a spring constant and a damping constant, said isolator coupled between said at least one planetary gear set and said sub-frame.

10. The system according to claim 6, further comprising a sub-frame isolator having a spring constant and a damping constant, said isolator coupled between said sub-frame and a remainder of said actuator.

11. The system according to claim 1, further comprising an actuator housing defining a motor cavity receiving at least a portion of said motor and a covering member disposed adjacent said motor cavity, thereby separating said motor from a remainder of said actuator.

12. The system according to claim 11, wherein said covering member comprises a sub-frame.

13. An electro-mechanical actuator comprising:
a motor having a drive shaft;
a gear train coupled to said drive shaft for driving an output of said actuator; and
a sub-frame, said motor and at least a portion of said drive train being mounted on said sub-frame.

14. An actuator according to claim 13, wherein said gear train comprises a driven gear coupled to a planetary gear set, and wherein at least one of said driven gear and said planetary gear set are mounted on said sub-frame.

15. The electromechanical actuator according to claim 14, further comprising an actuator housing defining a planetary gear set cavity receiving at least a portion of said planetary gear set, wherein cooperation between said housing and said sub-frame separating said planetary gear set from a remainder of said actuator.

16. The electro-mechanical actuator according to claim 13, further comprising an actuator housing, said housing defining a motor cavity receiving at least a portion of said motor, wherein cooperation between said housing and said sub-frame separate said motor from a remainder of said actuator.

17. The electromechanical actuator according to claim 16, further comprising a first motor isolator having a spring constant and a damping constant, said isolator disposed between said sub-frame and said motor.

18. The electromechanical actuator according to claim 17, further comprising a second motor isolator having a spring constant and a damping constant, said isolator disposed between said motor and said housing.

19. The electromechanical actuator according to claim 13, further comprising a sub-frame isolator having a spring constant and a damping constant, said isolator disposed between said sub-frame and an actuator housing.

20. An electrically actuated parking brake system comprising:
a vehicle power source;

an actuator comprising a motor having a drive shaft coupled to a drive pulley, a driven pulley coupled to said drive pulley via a drive belt, and a planetary gear set coupled to said driven pulley for driving an output of said actuator, at least said motor and planetary gear set mounted on a sub-frame, and a component isolator having a spring constant and a damping constant disposed between said sub-frame and an actuator housing; and

a brake caliper coupled to said actuator output, said actuator output being configured for driving said brake caliper between an engaged position and a released position.

21. The system according to claim 20, said actuator housing comprising a motor isolation cavity receiving at least a portion of said motor, wherein said sub-frame cooperates with said housing to separate said motor from at least one of said drive gear, driven gear and said planetary gear set.

22. The system according to claim 20, further comprising a motor isolator having a spring constant and a damping constant, said motor isolator disposed between said motor and said mounted plate.

23. A method of assembling an actuator comprising mounting a motor and a gear train to a sub-frame; coupling said sub-frame to a portion of an actuator housing to at least partially enclose said motor in a motor isolation cavity defined by said portion of said actuator housing and said sub-frame.

24. A method according to claim 23, said method further comprising: coupling a second sub-frame to said sub-frame to enclose at least a portion of said gear train in a cavity defined by said sub-frame and said second sub-frame.

25. A method according to claim 24, said method further comprising:
coupling a second portion of said actuator housing to said portion of said actuator housing to enclose said sub-frame and said second sub-frame at least partially within said actuator housing.

26. A method according to claim 23, said method further comprising:
providing at least one motor isolation bushing between said portion of said actuator housing and said motor.

27. A method according to claim 23, said method further comprising:
providing a first motor isolation bushing between said portion of said actuator housing and said motor; and
providing a second motor isolation bushing between said sub-frame and said motor.

28. A method according to claim 23, said method further comprising:
providing at least one isolation bushing between said portion of said actuator housing and said sub-frame.